

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An electrode-rolled battery in which an anode and a cathode are rolled in a manner that a separator is put between said anode and said cathode and in which a plurality of collecting tabs is respectively ~~provided~~ connected with a plurality of anode active material unformed parts of said anode and a plurality of cathode active material ~~forming~~ unformed parts of said cathode; and

wherein when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, a following expression is set:

$$L \geq 2\pi R.$$

2. (original): The electrode-rolled battery according to Claim 1, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

3. (currently amended): An electrode-rolled battery in which an anode and a cathode are rolled in a manner that a separator is put between said anode and said cathode and in which a plurality of collecting tabs is respectively ~~provided~~ connected with a plurality of anode

active material unformed parts and a plurality of cathode active material ~~forming~~ unformed parts;
and

wherein when a length of an outermost anode active material unformed part is set as “L”;
and when a distance from said outermost anode active material unformed part to a center of a
rolled body made up of said anode, said cathode and said separator, is set as “R”, when a
deviation between a start point of said outermost anode active material unformed part and a start
point of a outermost cathode active material forming part which is opposite to said outermost
anode active material unformed part is set as “ α ”, and when a deviation between an end point of
said outermost anode active material unformed part and an end point of said outermost cathode
active material forming part which is opposite to said outermost anode active material unformed
part is set as “ β ”, a following expression is set:

$$L = 2\pi R + \alpha + \beta.$$

4. (original): The electrode-rolled battery according to Claim 3, wherein each of
said collecting tabs is arranged regularly on an end face of said rolled body.

5. (currently amended): An electrode-rolled battery comprising:

an anode having a first band-shaped ~~electrode~~ current collector and intermittently having
anode active material forming parts on both sides of said first band-shaped ~~electrode~~ current
collector in a longitudinal direction;

a cathode having a second band-shaped ~~electrode~~ current collector and intermittently having cathode active material forming parts on both sides of said first band-shaped ~~electrode~~ current collector in a longitudinal direction;

a plurality of first collecting tabs formed in said anode active material ~~forming~~ unformed parts of said first band-shaped ~~electrode~~ current collector;

a plurality of second collecting tabs formed in said cathode active material unformed parts of said second band-shaped ~~electrode~~ current collector; and

a separator put between said cathode and said anode;

said electrode-rolled battery in which said anode, said cathode and said separator are rolled; and

wherein when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, when a deviation between a start point of said outermost anode active material unformed part and a start point of a outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ α ”, and when a deviation between an end point of said outermost anode active material unformed part and an end point of said outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ β ”, a following expression is set:

$$L \geq 2\pi R.$$

6. (original): The electrode-rolled battery according to Claim 5, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

7. (currently amended): An electrode-rolled battery comprising:

an anode having a first band-shaped ~~electrode~~ current collector and intermittently having anode active material forming parts on both sides of said first band-shaped ~~electrode~~ current collector in a longitudinal direction;

a cathode having a second band-shaped ~~electrode~~ current collector and intermittently having cathode active material forming parts on both sides of said second band-shaped ~~electrode~~ current collector in a longitudinal direction;

a plurality of first collecting tabs formed in said anode active material ~~forming~~ unformed parts of said anode;

a plurality of second collecting tabs formed in said cathode active material unformed parts of said cathode; and

a separator put between said cathode and said anode:

said electrode-rolled battery in which said cathode, said anode and said separator are rolled; and

wherein when a length of an outermost anode active material unformed part is set as "L"; and when a distance from said outermost anode active material unformed part to a center of a

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rolled body made up of said anode, said cathode and said separator, is set as “R”, when a deviation between a start point of said outermost anode active material unformed part and a start point of a outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ α ”, and when a deviation between an end point of said outermost anode active material unformed part and an end point of said outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ β ”, a following expression is set:

$$L = 2\pi R + \alpha + \beta.$$

8. (original): The electrode-rolled battery according to Claim 7, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

9. (currently amended): A method of manufacturing an electrode-rolled battery ~~in which comprising rolling~~ an anode and a cathode ~~are rolled~~ in a manner that a separator is put between said anode and said cathode ~~and in which;~~

connecting a plurality of collecting tabs ~~is respectively provided~~ with a plurality of cathode active material unformed parts and a plurality of anode active material ~~forming~~ unformed parts; and

setting parameters such that ~~wherein~~ when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, a following expression is set:

$$L \geq 2\pi R.$$

10. (original): The method according to Claim 9, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

11. (currently amended): A method of manufacturing an electrode-rolled battery ~~in which~~ comprising rolling an anode and a cathode ~~are rolled~~ in a manner that a separator is put between said anode and said cathode ~~and in which~~;

connecting a plurality of collecting tabs ~~is respectively provided~~ with a plurality of anode active material unformed parts and a plurality of cathode active material ~~forming~~ unformed parts; and

setting parameters such that ~~wherein~~ when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, when a deviation between a start point of said outermost anode active

material unformed part and a start point of a outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ α ”, and when a deviation between an end point of said outermost anode active material unformed part and an end point of said outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ β ”, a following expression is set:

$$L = 2\pi R + \alpha + \beta.$$

12. (original): The method according to Claim 11, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

13. (currently amended): A method of manufacturing an electrode-rolled battery comprising:

an anode forming process of forming an anode by intermittently forming anode active material forming parts on both sides of a first band-shaped ~~electrode~~ current collector in a longitudinal direction;

a cathode forming process of forming a cathode by intermittently forming cathode active material forming parts on both sides of a second band-shaped ~~electrode~~ current collector in a longitudinal direction;

a connecting process of connecting a plurality of first collecting tabs to anode active material unformed parts of said first band-shaped ~~electrode~~ current collector and of connecting a plurality of second collecting tabs to cathode active material unformed parts of said second band-shaped ~~electrode~~ current collector;

a rolling process of rolling said cathode and said anode, and a separator which is put between said cathode and said anode;

a first tab gathering process of gathering each of said first collecting tabs;

a header connecting process of connecting a collecting header to said first collecting tabs which are gathered;

a second tab gathering process of gathering each of said second collecting tabs;

an electrolyte injecting process of injecting electrolyte into said rolled body using an electrolyte injecting apparatus;

wherein when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, a following expression is set:

$$L \geq 2\pi R.$$

14. (original): The method according to Claim 13, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.

15. (currently amended): A method of manufacturing an electrode-rolled battery comprising:

an anode forming process of forming an anode by intermittently forming anode active material forming parts on both sides of a first band-shaped ~~electrode~~ current collector in a longitudinal direction;

a cathode forming process of forming a cathode by intermittently forming cathode active material forming parts on both sides of a second band-shaped ~~electrode~~ current collector in a longitudinal direction;

a connecting process of connecting a plurality of first collecting tabs to anode active material unformed parts of said first band-shaped electrode and of connecting a plurality of second collecting tabs to cathode active material unformed parts of said second band-shaped electrode;

a rolling process of rolling said cathode and said anode, and a separator which is put between said cathode and said anode;

a first tab gathering process of gathering each of said first collecting tabs;

a header connecting process of connecting a collecting header to said first collecting tabs which are gathered;

a second tab gathering process of gathering each of said second collecting tabs;

an electrolyte injecting process of injecting electrolyte into said rolled body using an electrolyte injecting apparatus:

wherein when a length of an outermost anode active material unformed part is set as “L”; and when a distance from said outermost anode active material unformed part to a center of a rolled body made up of said anode, said cathode and said separator, is set as “R”, when a deviation between a start point of said outermost anode active material unformed part and a start point of a outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ α ”, and when a deviation between an end point of said outermost anode active material unformed part and an end point of said outermost cathode active material forming part which is opposite to said outermost anode active material unformed part is set as “ β ”, a following expression is set:

$$L = 2\pi R + \alpha + \beta.$$

16. (original): The method according to Claim 15, wherein each of said collecting tabs is arranged regularly on an end face of said rolled body.